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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,659	02/15/2006	Carl Towns	3724.1008-000	5024
21005	7590	08/07/2009	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			NGUYEN, KHANH TUAN	
			ART UNIT	PAPER NUMBER
			1796	
			MAIL DATE	DELIVERY MODE
			08/07/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,659	TOWNS ET AL.	
	Examiner	Art Unit	
	KHANH T. NGUYEN	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 03 August 2009.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 24-47 is/are pending in the application.
 4a) Of the above claim(s) 31-40, 45 and 46 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 24-30, 41-44 and 47 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, **the finality of that action is withdrawn.**
2. The amendment filed on 07/24/2009 is entered and acknowledged by the Examiner. Claims 24-47 are currently pending in the instant application. Claims 31-40, 45 and 46 have been withdrawn from further consideration.
3. All the prior art rejections set forth in the office action filed on 05/06/2009 are rendered moot in view of applicant's amendment and remark.

Claim Rejections - 35 USC § 102/103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

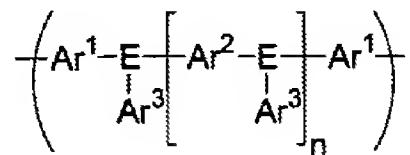
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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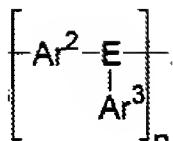
invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

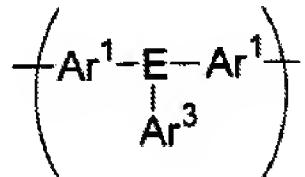
1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. *Claim Interpretation: Independent Claims 24 and 47 required a first and second repeat units represented by formula (I)*



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however when n integer is equal to zero the $\left[\begin{array}{c} \text{Ar}^2 - \text{E} \\ | \\ \text{Ar}^3 \end{array} \right]_n$ group is not required by the



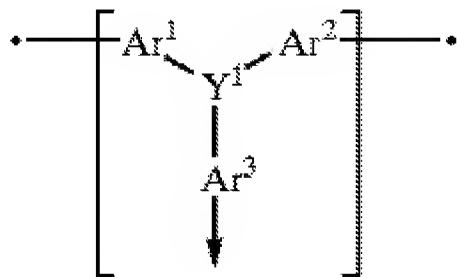
claimed formula, thus the claimed formula can be simplify to

wherein the first repeat unit having an E that is a phosphorous atom with A^1 and A^3 each is a phenyl and the second repeat unit may be the same or different from the first repeat unit.

8. Claims 24-30, 41-44 and 47 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over WO 99/32537 (Allen). The English equivalent to Allen reference is U.S. Pat. 6,630,566 B1 will be used.

Allen discloses a polymeric material comprising of at least one repeating unit, or each of more than one repeating unit consisting of Formula (1) wherein Y^1 may be N, P, S, As and/or Se and Ar^1 , Ar^2 and Ar^3 may be aromatic groups (Abstract; Col. 12, lines 27-63) selected from phenylene and naphthenyl (Col. 16, lines 35-43).

Formula 1



In other words, the polymeric material of Allen may contain at least one repeating unit of Formula (1) wherein Y^1 is a phosphorous (P) atom and at least one repeating unit of Formula (1) wherein Y^1 is a nitrogen (N) atom with each Ar^1 , Ar^2 , and Ar^3 selected from phenylene group. One of the repeating unit of Allen, when Y^1 is a phosphorous atom, is readable on the first repeat unit of the claimed formula (I) wherein E is a phosphorous atom with each Ar^1 and Ar^3 is a phenylene, and n is zero. When Y^1 the other repeating unit of Allen is a nitrogen atom, it is readable on the second repeat unit of the claimed formula (I) wherein the unit is different from the first unit with E substituted with a nitrogen atom and each Ar^1 and Ar^3 is phenylene, and n is zero. The polymeric material of Allen is readable the claimed polymer as recited in Claims 24-30 and 47 when the polymeric material of Allen contains more than one repeating unit with one unit containing a phosphorous atom and the other repeating unit containing a nitrogen atom. Allen further discloses the said polymeric material may be used in optical devices such as electroluminescent device and switching devices such as transistors as recited in Claims 41-44 (Col. 14, lines 6-44).

The reference specifically or inherently meets each of the claimed limitations.

The reference is anticipatory.

In the alternative that the above disclosure is insufficient to anticipate the above listed claims, it would have nonetheless been obvious to the skilled artisan to produce the claimed oligomer or polymer after reading Allen disclosure, any minor modification necessary to meet the claimed limitations would have been within the purview of the skilled artisan because Allen discloses the general condition of the claimed invention wherein a polymeric material may have plurality repeating units that contain phosphorous and nitrogen as required by the instant application.

In view of the foregoing, the above claims have failed to patentably distinguish over the applied art.

Response to Arguments

9. Applicant's arguments with respect to claims 24-30, 41-44 and 47 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHANH T. NGUYEN whose telephone number is (571) 272-8082. The examiner can normally be reached on Monday-Friday 7:00-4:00 EST PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Kopec/
Primary Examiner, Art Unit 1796

/KTN/
Examiner
08/03/2009